UCRL-JC-126230 Abs

DOE Integrated Safeguards and Security (DISS)—A Nation-Wide Distributed Information System for Personnel Security

Everett Wheelock
Lawrence Livermore National Laboratory

The DOE Integrated Safeguards and Security (DISS) modernization project is developing modernized databases and reengineered workflow for the DOE's personnel security and weapons data access control systems. The resulting new system will be the focus of activities to track and manage the complex, interrelated set of information supporting clearance processing, access control, and weapons data access operations.

DISS employs a distributed, client/server architecture, utilizing 12 ORACLE database servers running on UNIX platforms with client applications running on individual workstations (PC/Windows and Macintosh computers). The system is being deployed nationwide, with regional servers at DOE operations offices that can exchange data over public networks with the Office of Personnel Management (OPM). These regional databases also share distributed access with DOE's new Personnel Security Database (PSDB) that hosts a Central Personnel Clearance Index (CPCI), Visitor Access Database (VADB), and Weapons Data Access Control (WDAC). The DISS project provides the integration of a new computer, communications, and information security infrastructure utilizing public-key encryption technologies and digital signature authentication of applicant data. Secure client/server communication is established over public TCP/IP networks (Internet) using ORACLE's Secure Network Services encryption with firewalled LANs. Additional clients developed using World-Wide-Web browser interface to Oracle database servers with Secure Socket Layer (SSL) encryption. The system has a nation-wide base of 700-1000 users.

The DISS project completes work initiated with Electronic Transfer of clearance information (DISS/ET) and development of the new Personnel Security Database (DISS/PSDB). The new DISS system bridges the gap from personnel security to physical security by additional interfaces to external systems including DOE's Complex-Wide Access Control (CWAC) system and Safeguards and Security Information Management System (SSIMS).

*This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under contract No. W-7405-Eng-48.